ABSTRACT

An apparatus for processing an optical signal includes a tunable optical element and a reflective element. The tunable optical element receives a first input signal, at an incidence angle, and a second input signal. The tunable optical element separates the first input signal into a first beam having a first optical path length and a second beam having a second optical path length. The difference between the first optical path length and the second optical path length is based in part upon the incidence angle of the first input signal. The tunable optical element separates the second input signal into a third beam and a fourth beam. The reflective element reflects the first beam, the second beam, the third beam, and the fourth beam such that at least a portion of the beams interfere to produce an output signal. The output signal comprises wavelength channels of the first input signal combined with wavelength channels of the second input signal.